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Appl. No. : 09/584,656
Filed : May 30, 2000

REMARKS

In the Final Office Action mailed on November 18, 2003, the Examiner rejected all pending claims not considered to be withdrawn from consideration, *i.e.*, Claims 53-55, 59, 65, 68-69 and 71-76. In the present Amendment, Applicant has amended independent Claims 53, 65 and 72, in addition to correcting the dependency of Claim 71.

Amendments to the Claims

Applicant has amended the claims to clarify further the subject matter that Applicant regards as the invention. For example, Applicant has amended independent Claims 53 and 65 to recite that the "chemical vapor deposition chamber" or "chemical vapor deposition process chamber" comprises a "gas inlet" and a "gas outlet" and that the "gas inlet is connected in gas communication with a chemical vapor deposition reactant gas source." Support for these amendments can be found in the Application as originally filed. *See, e.g.*, the Application, pp. 1, 5-6, 9 and 12 and Figures 1A-1C and Figures 2A-2C.

In addition, Applicant has amended Claim 53 to recite a "drive mechanism," rather than "means." Support for this amendment can be found in the Application as originally filed. *See, e.g.*, the Application, pp. 3 and 5-6 and Claim 39, as originally filed.

Applicant has also amended Claim 71 to correct an obvious clerical error. Claim 71 has erroneously been listed as being dependent from cancelled Claim 70, although it was previously dependent from independent Claim 65. Consequently, as suggested by the Examiner, Claim 71 has been rewritten to depend from Claim 65, rather than cancelled Claim 70. Because this amendment merely corrects an obvious clerical error, Applicant submits that no new matter is added.

Applicant has also amended independent Claim 72 to recite that "the thermal exchange member comprises a wall substantially transparent to radiant heat." Support for this language can be found in the Application as originally filed. *See, e.g.*, the Application, pp. 5-6 and Figures 1A-1C.

Consequently, Applicant respectfully submits that the amendments add no new matter and are fully supported by the Application as originally filed.

Rejections Under 35 U.S.C. §112, second paragraph

The Examiner has objected to Claims 53-55 and 59 as being “incomplete for omitting essential elements,” these elements being “structure to provide ‘substrate treatment.’”

Applicant notes that independent Claim 53 has been amended to recite that the “walls defining a chemical vapor deposition chamber” comprise “a gas inlet and a gas outlet, wherein the gas inlet is connected in gas communication with a chemical vapor deposition reactant gas source.” Applicant submits that the skilled artisan would understand that the “chemical vapor deposition reactant gas source” allows “substrate treatment,” *e.g.*, “substrate treatment” can be performed when reactant gas from that “source” is flowed through the gas inlet into the deposition chamber and reacts with a substrate. Consequently, Applicant respectfully submits that the objection to independent Claim 53 is overcome. In addition, because Claims 54-55 and 59 depend from independent Claim 53, Applicant submits that the objections to these claims is also overcome.

The Examiner has also objected to Claim 71 as being indefinite for depending from cancelled Claim 70.

In response, as suggested by the Examiner, Applicant has amended Claim 71 to depend from independent Claim 65. Thus, Applicant respectfully submits that the objection to Claim 70 is overcome.

Rejections Under 35 U.S.C. §102(b)

The Examiner has rejected Claims 53-55, 59, 65, 68-69 and 71 as being anticipated by Bahng (U.S. Patent No. 5,199,483) and Claims 65, 68-69 and 71 as being anticipated by both Hughes (U.S. Patent No. 5,181,556) and Kroeker (U.S. Patent No. 6,000,227). In response to Applicant’s previous arguments, the Examiner stated “Applicant’s remarks with respect to Bahng, Hughes and Kroeker are not persuasive” because the claims did not “recite a single chamber having structure lending itself to processing and cooling.”

Applicant respectfully submits that the claims, as amended, are patentably distinct.

Initially, Applicant notes that independent Claims 53 and 65 have been amended to recite that the “chemical vapor deposition chamber” or “chemical vapor deposition process chamber” comprises a “gas inlet” and a “gas outlet” and that the “gas inlet is connected in gas communication with a chemical vapor deposition reactant gas source.” As noted above, Applicant

Appl. No. : 09/584,656
Filed : May 30, 2000

submits that the skilled artisan would understand that the “chemical vapor deposition reactant gas source” provides reactant gas that can be flowed into the deposition chamber to react with a substrate, thereby allowing “substrate treatment.” Thus, Applicant submits that independent Claims 53 and 65, as amended, recite structure lending itself to processing.

In addition, the “heat” or “thermal exchange member” and ancillary features already recited in Claim 53 and 65 provide structure for “cooling” or “thermal exchange.” Consequently, Applicant respectfully submits that independent Claims 53 and 65, as amended, recite a deposition chamber having structure lending itself to *both* processing and cooling or thermal exchange.

In contrast, Applicant submits that neither Bahng, Hughes nor Kroeker teach a “deposition chamber” in which both processing and cooling or thermal exchange can take place as recited. Rather, Bahng teaches a *dedicated* cool down chamber to increase the “throughput of an associated *multi-chamber* semiconductor wafer processing system.” Bahng, Col. 2, lines 39-43 (emphasis added). Thus, Bahng teaches an apparatus having a thermal exchange member located in a chamber separate from the process chamber. Similarly, Hughes teaches a “substrate *cooling station*” separate from the processing chamber (Hughes, Col. 4, lines 41-43, emphasis added), while Kroeker teaches a “wafer cooling system built into the *transfer chamber*” (Kroeker, Col. 2, lines 32-35, emphasis added). In addition, Kroeker distinguishes process chambers from transfer chambers, which hold the substrate for transport from one process chamber to another process chamber.

As such, Applicant respectfully submits that none of Bahng, Hughes and Kroeker teach an apparatus having structure for both processing and cooling or thermal exchange, as recited in independent Claims 53 and 65. Thus, Applicant submits that neither Bahng nor Kroeker not meet all limitations of independent Claims 53 and 65, so, do not anticipate those claims.

Rejections Under 35 U.S.C. §103

The Examiner has rejected Claims 72-76 under 35 U.S.C. § 103(a) as being unpatentable over Ohmine et al. in view of Bahng. The Examiner has stated that “Ohmine et al. discloses all the claimed limitations except for a heat exchange member” and that Bahng satisfies this deficiency.

Applicant respectfully submits that the claims, as amended, are patentably distinct.

Appl. No. : **09/584,656**
Filed : **May 30, 2000**

Applicant notes that independent Claim 72, as amended, recites that “the thermal exchange member comprises a wall substantially transparent to radiant heat.” Applicant submits that Ohmine and Bahng do not discuss and, so, do not teach a chamber having a “thermal exchange member” that comprises “a wall substantially transparent to radiant heat.” As such, Applicant respectfully submits that the combination of Ohmine and Bahng does not teach all limitations of independent Claim 72 and, so, does not render that claim obvious.

Accordingly, Applicant submits that the pending claims are allowable over the art of record. Applicant has not addressed the further anticipation and obviousness rejections of dependent claims as being moot in view of the amendments and remarks herein. However, Applicant expressly does not acquiesce in the Examiner’s findings not addressed herein. Indeed, Applicant submits that the dependent claims recite further novel and non-obvious features of particular utility.

Appl. No. : 09/584,656
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CONCLUSIONS

In view of the foregoing remarks, Applicants submit that the application is in condition for allowance and respectfully request the same. If some issue remains that the Examiner feels may be addressed by Examiner's amendment, the Examiner is cordially invited to call the undersigned for authorization.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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